

TCO CASE STUDY

## PULP AND PAPER INDUSTRY

# PowerSeal™ Windings Reduce Downtime and Reconditioning Costs

### THE CHALLENGE

A paper mill needed a cost effective, efficient solution for two critical water pump applications. The two motors driving the water pumps are located at the bottom of a 20-foot-deep pit and are frequently exposed to high humidity, containments, and flooding. There is limited space in the pit and the required back-to-back motor configuration didn't allow the customer to install TEFC motors for improved protection, so they were forced to utilize WPI enclosure motors in a less than favorable environment. In order to prevent the motors from failing the customer was swapping out each motor once a year with a spare for reconditioning and cleaning of the stator windings. This was costing them an additional \$10,000 in maintenance fees and removing them from the pit posed a safety risk for maintenance personnel.

### THE SOLUTION

IPS reviewed the application and recommended using our patented PowerSeal electrical insulation system. PowerSeal windings are ideal for harsh and severe environments, including those with high humidity and containments. We installed PowerSeal on one of the motors and it operated for over three years without ever needing to be pulled for service. At one point the pit flooded with over 12 feet of water and completely submerged both motors for two weeks. Both motors were sent for inspection, and it was discovered that the motor with the PowerSeal winding passed all electrical testing and was put back into service after a quick recondition. The motor without the PowerSeal rewind experienced a stator ground during the flood and required a completely new rewind.



Limited space forced the customer to utilize WPI motors in a wet and harsh environment.



Motor with PowerSeal rewind after removal.



Reconditioned and ready to ship.

### RESULTS

The IPS PowerSeal stator winding saved the customer three annual reconditionings at \$10,000 per year, totaling \$30,000, plus they saved an additional \$30,000 in cost avoidance when the PowerSeal stator winding did not fail when submerged underwater for two weeks.

TOTAL SAVINGS  
**\$60,000**